



24601-416B

SEQUENCE LISTING

<110> de Jong, Gary
Vandebyl, Sandra

<120> METHODS FOR DELIVERING NUCLEIC ACID
MOLECULES INTO CELLS AND ASSESSMENT THEREOF

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<141> 2001/03/22

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| attagtttga | ccaattagtt | ggctgggttt | ggagggtttct | tttgtttccg | atttgggtgt | 21000 |
| ttgtggggct | ggggatcagg | tatctcaacg | gaatgcata | aggtttaagg | gagatggctc | 21060 |
| gattttttgt | aagattactt | ttcttagtct | gaggaaaaaa | taaaataata | ttgggtctacg | 21120 |
| tttcattgct | tcattttctat | ttctctttct | ttctttcttt | ctttcagata | aggagggtcgg | 21180 |
| ccagttctct | ctgccttctg | gaagatgtag | gcattgcatt | gggaaaagca | ttgtttgaga | 21240 |
| gatgtgctag | tgaaccagag | agttttggatg | tcaagccgta | taatgtttat | tacaatatag | 21300 |
| aaaagttcta | acaaagtgat | ctttaacttt | tttttttttt | tttctccttc | tacttctact | 21360 |
| tgttctcact | ctgccaccaaa | cgcgctttgt | acattgaaatg | tgagctttgt | tttgccttaac | 21420 |
| agacatatat | tttttctttt | ggttttgctt | gacatgggtt | ccctttctat | ccgtgcaggg | 21480 |
| ttcccagagc | gccttttgag | aataaaaatgg | gaggccagaa | ccaaagtctt | ttgaataaag | 21540 |
| caccacaact | ctaaccgtgt | tggtgttttt | ccttcccaag | gcacagatct | ttcccagcat | 21600 |
| ggaaaagcat | gtagcagttg | taggacacac | tagacgagag | caccagatct | cattgtgggt | 21660 |
| ggttgtgaac | caccaccat | gtggttgctt | gggatttgaa | ctcaggatct | tcagaagacg | 21720 |
| agtcaggggt | ctaaaccgat | gagccatctc | tccagccctc | ctacattcct | tcttaaggca | 21780 |
| tgaatgatcc | cagcatggga | agacagtctg | ccctctttgt | ggtatatcac | catatactca | 21840 |
| ataaaaataat | gaaatgaatg | aagtctccac | gtattttattt | cttcgagcta | tctaaattct | 21900 |
| ctcacagcac | ctccccctcc | cccacactgc | ctttctccct | atgtttgggt | ggggctggg | 21960 |
| gaggggtggg | gtgggggacg | ggatctgcat | gtcttcttgc | aggtctgtga | actatttgcg | 22020 |
| atggcctggg | tctctgaact | gttgagcctt | gtctatccag | aggctgactg | gctagttttc | 22080 |
| tacctgaagt | ccttgagtga | tgatttccct | gtgaattc | | | 22118 |

<210> 6
 <211> 175
 <212> DNA
 <213> Mus Musculus

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 6 | | | | | | |
| ctcccgcgcg | gcccccggtg | tcgcccgttcc | cgtggcgcg | acaatgcggt | tgtgcgtcca | 60 |
| cgtgtgcgtg | tccgtgcagt | gccgttgttg | agtgccctgc | tctcctctc | ctccccggca | 120 |
| gcgttcccac | ggttggggac | caccggtgac | ctcgccctct | tcgggcctgg | atccg | 175 |

<210> 7
 <211> 755
 <212> DNA
 <213> Mus musculus

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|----|
| <400> 7 | | | | | | |
| ggctgtgggtg | gaattgttga | cctcgctctc | gggtgcggcc | tttggggaac | ggcggggctg | 60 |

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| gtcgtgcccc | gcgccggacg | tgtgtcgggg | cccacttccc | gctcagaggt | ggcgggtggcg | 120 |
| gcggcggttg | tagtctcccc | tgttgcgctc | tcccgggctc | ttgggggggg | tgccgtcggt | 180 |
| ttcggggccg | gcgttgcttg | gcttacgcag | gcttggtttg | ggactgcctc | aggagtcgtg | 240 |
| ggcgggtgtg | ttcccgcggg | ttttgcctcg | cgtctgcctg | ctttgcctcg | ggtttgcttg | 300 |
| gttcgtgtct | cgggagcggg | ggtttttttt | tttttcgggt | cccggggaga | gggggtttttc | 360 |
| cgggggacgt | tcccgtcgcc | ccctgccgcc | gggtgggtttt | cgtttcgggc | tgtgttcggt | 420 |
| tccccttccc | cgtttcgccc | tgggttctcc | ccggtcgggc | ggccctctcc | ccggtcgggc | 480 |
| gcccggcgtg | gctgccggac | cccccttctt | gggggggatg | cccgggcacg | cacgcgtccg | 540 |
| ggcggccact | gtggtcggg | agctgctcgg | caggcgggtg | agccagttgg | aggggcgtca | 600 |
| tgcccccgcg | ggctcccgtg | gccgacgcgg | cgtgttcttt | gggggggcct | gtgcgtgcgg | 660 |
| gaaggctgcg | cacgttgtcg | gtccttgcca | gggaaagagg | cttttttttt | ttaggggggtc | 720 |
| gtccttcgtc | gtcccgtcgg | cgggtggatcc | ggcct | | | 755 |

<210> 8
 <211> 463
 <212> DNA
 <213> Mus musculus

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| <400> 8 | | | | | | |
| ggccgaggtg | cgtctgcggg | ttgggggctcg | tccggccccc | tcgtcctccg | ggaaggcggt | 60 |
| tagcgggtac | cgtcgccgcg | ccgaggtggg | cgcacgtcgg | tgagataacc | ccgagcggtg | 120 |
| ttctgggtgt | tggcggcggg | ggctccggtc | gatgtcttcc | cctccccctc | tccccgaggc | 180 |
| caggtcagcc | tccgcctgtg | ggcttcgtcg | gccgtctccc | ccccctcac | gtccctcgcg | 240 |
| agcgagcccg | tccgttcgac | cttccttccc | ccttcccccc | atctttccgc | gctccggttg | 300 |
| ccccgggggt | ttcacggcgc | ccccacgct | cctccgcctc | tccgcccgtg | gtttggacgc | 360 |
| ctgggttccg | tctccccgcc | aaaccccggt | tgggttggtc | tccggccccc | gcttgctctt | 420 |
| cgggtctccc | aacccccggc | cgggaagggt | cggggggttcc | ggg | | 463 |

<210> 9
 <211> 378
 <212> DNA
 <213> Mus musculus

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| <400> 9 | | | | | | |
| ggattcttca | ggattgaaac | ccaaaccggt | tcagtttctt | ttccggctcc | ggccgggggg | 60 |
| ggcggccccc | ggcgggtttg | tgagttagat | aacctcgggc | cgatcgcacg | ccccccgtgg | 120 |
| cggcgacgac | ccattcgaac | gtctgcccta | tcaactttcg | atggtagtcg | atgtgcctac | 180 |
| catgggtgacc | acgggtgacg | gggaatcagg | gttcgattcc | ggagagggag | cctgagaaac | 240 |
| ggctaccaca | tccaagggaag | gcagcaggcg | cgcaaattac | ccactcccga | cccggggagg | 300 |
| tagtgacgaa | aaataacaat | acaggactct | ttcgaggccc | tgtaattgga | atgagtcac | 360 |
| tttaaatcct | ttaagcag | | | | | 378 |

<210> 10
 <211> 378
 <212> DNA
 <213> Mus musculus

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 10 | | | | | | |
| gatccattgg | agggcaagtc | tgggtgccagc | agccgcggta | attccagctc | caatagcgta | 60 |
| tattaaagtt | gctgcagtta | aaaagctcgt | agttggatct | tgggagcggg | cgggcggtcc | 120 |
| gccgcgaggg | gagtcaccgc | cgttccccgc | cccttgccct | tgggcgcccc | ctcgatgctc | 180 |
| ttagctgagt | tgtcccgcgg | ggcccgaagc | gtttactttg | aaaaaattag | agttgtttca | 240 |
| aagcaggccc | gagccgcctg | gataccgcca | gctaggaaat | aatggaatag | gaccgcgggt | 300 |
| cctattttgt | ttgggttttc | gaactgagcc | catgattaag | ggaaacggcc | gggggcattc | 360 |
| ccttattgcg | cccccta | | | | | 378 |

<210> 11
 <211> 719
 <212> DNA
 <213> Mus musculus

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 11 | | | | | | |
| ggatcttttc | cgctccccgt | tcctccccgc | ccctccaccc | gcgcgtctcc | cccccttttt | 60 |
| tccccctctc | ggaggggggg | gaggtggggg | cgcgtggggc | gggtcggggg | tggggtcggc | 120 |
| gggggaccgc | ccccggccgg | caaaaggccg | ccgccggggc | catttcaacc | gtagcgggtg | 180 |

| | | | | | | |
|-------------|------------|-------------|------------|-------------|------------|-----|
| gcccgcgaccg | gctacgagac | ggctg99gaag | gcccgcgagg | gaatgtggct | c999999999 | 240 |
| ggcgcgtctc | agggcgcgcc | gaaccacctc | accccgagt | ttacagccct | ccggccgcgc | 300 |
| tttcgcggaa | tccc9999cc | gaggggaagc | ccgatacccg | tcgcgcgcgt | tttccctcc | 360 |
| ccccgtccgc | ctccc999cg | ggcgt9999g | t99999cccg | gccgccccctc | ccacgcccgt | 420 |
| ggttttctctc | tctcccggtc | tcggcccggtt | t99999999g | agcccgggtt | ggggcg999g | 480 |
| ggactgtcct | cagtgcgcgc | cgggcgtcgt | cgcgcgcgtc | ggccc9999g | gttctctcgg | 540 |
| tcacgcgcgc | cccgcgaag | ccgagcgcac | ggggtcggcg | gcgatgtcgg | ctacccaccc | 600 |
| gacccgtctt | gaaacacgga | ccaaggagtc | taacgcgtgc | gcgagtcagg | ggctcgcacg | 660 |
| aaagccgcgc | tggcgcaatg | aaggtgaagg | gcccgcgtcc | ggggcccgag | gtgggatcc | 719 |

<210> 12

<211> 685

<212> DNA

<213> Mus musculus

<400> 12

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| cgaggcctct | ccagtccgcc | gagggcgcac | caccggcccc | tctcgcgcgc | cgcgtcgggg | 60 |
| aggtggagca | cgagcgtacg | cgtaggacc | cgaaagatgg | tgaactatgc | ctgggcagg | 120 |
| cgaagccaga | ggaaactctg | gtggaggtcc | gtagcgggtcc | tgacgtgcaa | atcggtcgtc | 180 |
| cgacctgggt | ataggggcca | aagactaatc | gaaccatcta | gtagctgggt | ccctccgaag | 240 |
| tttccctcag | gatagctggc | gctctcgcaa | ccttcggaag | cagttttatc | cgggtaaagg | 300 |
| cggaatggat | taggaggtct | tggggccgga | aacgatctca | aactatttct | caaactttaa | 360 |
| atgggtaagg | aagcccggct | cgctggcgtg | gagccggggc | tgggaatgca | gtgcctagt | 420 |
| ggccactttt | ggtaagcaga | actggcgctg | cgggatgaac | cgaacgccgg | gttaaggcgc | 480 |
| ccgatgccga | cgctcatcag | acccagaaa | aggtgttgg | tgatatagac | agcaggacgg | 540 |
| tggccatgga | agtcggaatc | cgctaaggag | tgtgtaaaca | ctcacctgcc | gaatcaacta | 600 |
| gccctgaaaa | tggatggcgc | tggagcgtcg | ggcccatacc | cggccgtcgc | cggcagtcgg | 660 |
| aacgggacgg | gacgggagcg | gccgc | | | | 685 |

<210> 13

<211> 5162

<212> DNA

<213> Artificial Sequence

<220>

<223> Chimeric bacterial plasmid

<400> 13

| | | | | | | |
|------------|------------|-------------|-------------|-------------|-------------|------|
| gacggatcgg | gagatctccc | gatccccctat | ggtcgactct | cagtacaatc | tgctctgatg | 60 |
| ccgcatagtt | aagccagtat | ctgctccctg | cttgtgtgtt | ggaggctcgt | gagtagtgcg | 120 |
| cgagcaaaa | taaagctaca | acaaggcaag | gcttgaccga | caattgcatg | aagaatctgc | 180 |
| ttagggttag | gcgttttgcg | ctgcttcgcg | atgtacgggc | cagatatacg | cgttgacatt | 240 |
| gattattgac | tagttattaa | tagtaatcaa | ttacggggtc | attagttcat | agcccatata | 300 |
| tggagttccg | cgttacataa | ccttacggtaa | atggcccgc | tggctgaccg | cccaacgacc | 360 |
| cccgcaccat | gacgtcaata | atgacgtatg | ttcccatagt | aacgccaata | gggactttcc | 420 |
| attgacgtca | atgggtggac | tattttacgg | aaactgcccc | cttggcagta | catcaagtgt | 480 |
| atcatatgcc | aagtaacgcc | cctattgacg | tcaatgacgg | taaatggccc | gcctggcatt | 540 |
| atgcccagta | catgacctta | tgggactttc | ctacttggca | gtacatctac | gtattagtca | 600 |
| tcgctattac | catggtgatg | cggttttgcc | agtacatcaa | tgggcgtgga | tagcggtttg | 660 |
| actcacgggg | atttccaagt | ctccaccccc | ttgacgtcaa | tgggagtttg | ttttggcacc | 720 |
| aaaatcaacg | ggactttcca | aaatgtcgta | acaactccgc | cccatgacg | caaattggcg | 780 |
| gtaggcgtgt | acgggtggag | gtctatataa | gcagagctct | ctggctaact | agagaaccca | 840 |
| ctgcttactg | gcttatcgaa | attaatacga | ctcactatag | ggagacccaa | gcttgggtacc | 900 |
| gagctcggat | cgatatctgc | ggccgcgcgc | acggaattca | gtggatccac | tagtaacggc | 960 |
| cgccagtgtg | ctggaattaa | ttcgctgtct | gcgagggccca | gctgttgggg | tgagtactcc | 1020 |
| ctctcaaaa | cgggcatgac | ttctgcgcta | agattgtcag | tttccaaaaa | cgaggaggat | 1080 |
| ttgatattca | cctggcccgc | gggtatgcct | tcgggggtgg | ccgcgtccat | ctggtcagaa | 1140 |
| aagacaatct | ttttgttgtc | aagcttgagg | tgtggcaggc | ttgagatctg | gccatacact | 1200 |
| tgagtgacaa | tgacatccac | tttgcccttc | tctccacagg | tgtccactcc | caggtccaac | 1260 |
| tgcaggtcga | gcatgcatct | agggcggcca | attccgcccc | tctccctccc | ccccccctaa | 1320 |
| cgttactggc | cgaagccgct | tgggaataagg | ccggtgtgcg | tttgtctata | tgtgattttc | 1380 |
| caccatattg | ccgtcttttg | gcaatgtgag | ggcccggaaa | cctggccctg | tcttcttgac | 1440 |
| gagcattcct | aggggtcttt | cccctctcgc | caaagggaat | caaggctctgt | tgaatgtcgt | 1500 |
| gaaggaagca | gttccctctg | aagcttcttg | aagacaaaaca | acgtctgtag | cgaccctttg | 1560 |
| caggcagcgg | aacccccac | ctggcgacag | gtgcctctgc | ggccaaaagc | cacgtgtata | 1620 |

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| agatacacct | gcaaaggcgg | cacaacccca | gtgccacgtt | gtgagttgga | tagttgtgga | 1680 |
| aagagtcaaa | tggctctcct | caagcgtatt | caacaagggg | ctgaaggatg | cccagaaggt | 1740 |
| accccatgt | atgggatctg | atctggggcc | tgggtgcaca | tgttttacat | gtgttttagtc | 1800 |
| gaggttaaaa | aaacgtctag | gccccccgaa | ccacggggac | gtggttttcc | tttgaaaaac | 1860 |
| acgatgataa | gcttgccaca | acccgggatc | caccggtcgc | caccatggtg | agcaagggcg | 1920 |
| aggagctgtt | caccgggggtg | gtgcccattcc | tggctcagct | ggacggcgac | gtaaacggcc | 1980 |
| acaagttcag | cgtgtccggc | gagggcgagg | gcatgccac | ctacggcaag | ctgaccctga | 2040 |
| agttcatctg | caccaccggc | aagctgcccc | tgccttgccc | caccctcgtg | accaccctga | 2100 |
| cctacggcgt | gcagtgcttc | agcgcgtacc | ccgaccacat | gaagcagcac | gacttcttca | 2160 |
| agtccggcat | gcccgaaggc | tacgtccagg | agcgaccat | cttcttcaag | gacgacggca | 2220 |
| actacaagac | ccgcgccgag | gtgaagttcg | agggcgacac | cctggtgaac | cgcctcgagc | 2280 |
| tgaagggcat | cgacttcaag | gaggacggca | acatcctggg | gcacaagctg | gagtacaact | 2340 |
| acaacagcca | caacgtctat | atcatggccg | acaagcagaa | gaacggcatc | aaggtgaact | 2400 |
| tcaagatccg | ccacaacatc | gaggacggca | gcgtgcagct | cgccgaccac | taccagcaga | 2460 |
| acacccccat | cggcgacggc | cccgtgctgc | tgcgcgacaa | ccactacctg | agcaccaggt | 2520 |
| ccgccttgag | caaagacccc | aacgagaagc | gcatcacat | ggtcctgctg | gagttcgtga | 2580 |
| ccgcgcggcg | gatcactctc | ggcatggacg | agctgtacaa | gtaaagcggc | cctagagctc | 2640 |
| gctgatcagc | ctcgactgtg | cctctagtct | ccagccatct | gttgtttgcc | cctcccccg | 2700 |
| gccttccttg | accctggaag | gtgccactcc | cactgtectt | tcctaataaa | atgaggaaat | 2760 |
| tgcacgcat | tgtctgagta | ggtgtcattc | tattctgggg | ggtggggtgg | ggcaggacag | 2820 |
| caagggggag | gattgggaag | acaatagcag | gcatgctggg | gatgcgggtg | gctctatggc | 2880 |
| ttctgaggcg | gaaagaacca | gctggggctc | gagtgcatct | tagttgtggt | ttgtccaaac | 2940 |
| tcattcaatgt | atcttatcat | gtctgtatac | cgctgacctc | tagctagagc | ttggcgtaat | 3000 |
| catgttcata | gctgtttcct | gtgtgaaatt | gttatccgct | cacaattcca | cacaacatac | 3060 |
| gagccggaag | cataaagtgt | aaagcctggg | gtgcctaatt | agtgaagctaa | ctcacattaa | 3120 |
| ttgcgttgcg | ctcactgccc | gctttccagt | cgggaaacct | gtcgtgccag | ctgcattaat | 3180 |
| gaatcggcc | acgcgcgggg | agaggcggtt | tgcgtattgg | gcgctcttcc | gcttcctcgc | 3240 |
| tcactgactc | gctgcgctcg | gtcgttcggc | tgcggcgagc | ggtatcagct | cactcaaagg | 3300 |
| cggtaatacg | ggttatccaca | gaatcagggg | ataacgcagg | aaagaacatg | tgagcaaaag | 3360 |
| gccagcaaaa | ggccaggaac | cgtaaaaagg | ccgcgttgct | ggcgtttttc | cataggctcc | 3420 |
| gccccccctga | cgagcatcac | aaaaatcgac | gctcaagtca | gaggtggcga | aacccgacag | 3480 |
| gactataaag | ataccaggcg | tttccccctg | gaagctccct | cgtgcgctct | cctgttcgga | 3540 |
| ccctgcgcgt | taccggatat | ctgtccgcct | ttctcccttc | gggaagcgtg | gcgctttctc | 3600 |
| aatgctcacg | ctgtaggtat | ctcagttcgg | tgtaggtcgt | tcgctccaag | ctgggctgtg | 3660 |
| tgcacgaacc | ccccgttcag | cccgaccgct | gcgccttatt | cggttaactat | cgtcttgagt | 3720 |
| ccaacccggg | aagacacgac | ttatcgccac | tggcagcagc | cactggtaac | aggattagca | 3780 |
| gagcgaggta | tgtaggcggt | gctacagagt | tcttgaagtg | gtggcctaac | tacggctaca | 3840 |
| ctaagaaggac | agtatttggt | atctgcgctc | tgtggaagcc | agttaccttc | ggaaaaagag | 3900 |
| ttggtagctc | ttgatccggc | aaacaaacca | ccgctggtag | cggtgggttt | tttgtttgca | 3960 |
| agcagcagat | tacgcgcaga | aaaaaaggat | ctcaagaaga | tcctttgatc | ttttctacgg | 4020 |
| ggtctgacgc | tcagtggaac | gaaaactcac | gttaagggat | tttgggtcatg | agattatcaa | 4080 |
| aaaggatctt | cacctagatc | cttttaaat | aaaaatgaag | ttttaaatca | atctaaagta | 4140 |
| tatatgagta | aacttgggtc | gacagttacc | aatgcttaat | cagtgaaggca | cctatctcag | 4200 |
| cgatctgtct | atttcggtca | tccatagtgt | cctgactccc | cgtcgtgtag | ataactacga | 4260 |
| tacgggaggg | cttaccatct | ggccccagtg | ctgcaatgat | accgcgagac | ccacgctcac | 4320 |
| cggctccaga | tttatcagca | ataaaccagc | cagccggaag | ggccgagcgc | agaagtggtc | 4380 |
| ctgcaacttt | atccgcctcc | atccagtcta | ttaattgttg | ccgggaagct | agagtaagta | 4440 |
| gttcgcccagt | taatagtttg | cgcaacgttg | ttgccattgc | tacaggcatc | gtgggtgcac | 4500 |
| gctcgtcgtt | tggatgggt | tcattcagct | ccggttccca | acgatcaagg | cgagttacat | 4560 |
| gatcccccat | gttgtgcaaa | aaagcggtta | gctccttcgg | tcctccgatc | gttgtcagaa | 4620 |
| gtaagttggc | cgcagtgtta | tcactcatgg | ttatggcagc | actgcataat | tctcttactg | 4680 |
| tcatgccatc | cgtgaagatgc | ttttctgtga | ctggtagta | ctcaaccaag | tcattctgag | 4740 |
| aatagtgtat | gcggcgaccg | agttgctctt | gcccggcgctc | aatacgggat | aataccgcgc | 4800 |
| cacatagcag | aactttaaaa | gtgctcatca | ttggaaaacg | ttcttcgggg | cgaaaactct | 4860 |
| caaggatctt | accgctgttg | agatccagtt | cgatgtaacc | cactcgtgca | cccaactgat | 4920 |
| cttcagcatc | ttttactttc | accagcgttt | ctgggtgagc | aaaaacagga | aggcaaaatg | 4980 |
| ccgcaaaaaa | gggaataaag | gcgacacgga | aatgttgaat | actcatactc | ttccttttcc | 5040 |
| aatattattg | aagcatttat | cagggttatt | gtctcatgag | cggatacata | tttgaatgta | 5100 |
| tttagaaaaa | taaacaaata | ggggttccgc | gcacatttcc | ccgaaaagtg | ccacctgacg | 5160 |
| tc | | | | | | 5162 |